

## **REMARKS/ARGUMENTS**

Applicant thanks Examiner for the detailed Office Action dated August 18, 2006. In response to the issues raised, the Applicant offers the following submissions and amendments. Also enclosed is a Terminal Disclaimer linking the term and ownership of any patent granted on the present application to that of co-pending USSN 10/728,884.

### **Amendments**

Claims 1, 19 and 38 have been amended to highlight the features distinguishing the invention of the prior art. From reading the specification as a whole, the skilled addressee would understand that the bubble collapse point is positioned away from any solid surfaces.

Accordingly, the amendments do not add any new matter.

### **Nonstatutory Double Patenting**

The enclosed Terminal Disclaimer links the term and ownership of any patent granted on the present application to that of co-pending USSN 10/728,884. The Applicant submits that this avoids any unjust timewise extension of patent rights or harassment from multiple assignees.

### **35 USC§103 – Claims**

Claims 1, 19 and 38, *inter alia*, stands rejected as obvious in light of US 5,706,041 to Kubby in view of US 6,067,919 to Shirota et al.

The Applicant disagrees. Amended claims 1, 19 and 38 explicitly define that the gas bubble collapses to a point that is spaced from any solid surfaces within the printhead. This avoids the need for thick protective coatings on the heater elements to guard against cavitation corrosion. These coatings thermally insulate the heater from the ink. To form the gas bubble the heater element needs to heat through the coating to the ink which requires additional energy. This reduces the printhead efficiency.

Configuring the heater and the nozzle so that the bubble collapses to a void allows the heater to have less protective coatings. The bubble is generated using less input energy to improve the printhead efficiency.

Kubby does not discuss the problem of cavitation corrosion. Kubby simply refers to the vaporization of ink to eject a drop through the nozzle at column 1, lines 23-26. At column 4, lines 5-22, Kubby describes the tantalum protective layers that the invention avoids. Similarly, Shirota does not propose any effective solution to cavitation corrosion. Shirota is primarily directed to pre-heating the ink prior to bubble nucleation.

Kubby and Shirota do not teach or suggest all the claim elements of the amended independent claims 1, 19 and 38. Therefore they also fail to disclose all the features of any dependent claims. Accordingly, the cited references do not support a §103 rejection of any of the claims.

### **Conclusion**

It is respectfully submitted that the Examiner's objection and rejections have been successfully traversed and the application is now in condition for allowance. Accordingly, favorable reconsideration is courteously solicited.

Very respectfully,

Applicant/s:



---

Kia Silverbrook

C/o: Silverbrook Research Pty Ltd  
393 Darling Street  
Balmain NSW 2041, Australia

Email: [kia.silverbrook@silverbrookresearch.com](mailto:kia.silverbrook@silverbrookresearch.com)

Telephone: +612 9818 6633

Facsimile: +61 2 9555 7762